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OBSERVATION OF LARGE GROUPS OF GAMBIAN MONGOOSES *(MUNGOS GAMBIANUS,* OGILBY 1835) IN SOUTHEASTERN SENEGAL

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ABSTRACT - We recorded 18 observations of Gambian mongooses (*Mungos gambianus*), including a group of over 40, in south-eastern Senegal. The following paper contains some data on the behaviour, group size and time of activity of this scarcely studied species.

Key words: social mongooses, *Mungos gambianus*, group size, social carnivore.

INTRODUCTION

The Gambian mongoose (*Mungos gambianus*) is restricted to an area between southern Senegal and the Niger River, to West Nigeria. It is a diurnal gregarious mongoose that inhabits moist savannahs, forest-cultivation mosaics, grasslands and woodlands and has a diet which predominantly consists of invertebrates (Kingdon, 1997). This species seems to be widespread and locally common.

Out of the 22 species of mongoose described for continental Africa (Wilson and Reeder, 1993), seven are considered "fully social" (Ewer, 1973) or "obligate communal breeders" (Creel and Creel, 1991). Only three of these species have been studied in detail (Estes, 1991; Kingdon, 1997). Research into the social groupings of banded mongooses *(Mungos mungo),* dwarf mongooses *(Helogale parvula)* and meerkats *(Suricata suricatta),* all of which display some of the most elaborate social systems found in mammals, has contributed considerably to the understanding of cooperative breeding in mammals (e.g. Rood, 1974; Rasa, 1985; Creel and Creel, 1991; Doolan and Macdonald, 1997). In this context, the Gambian mongoose is particularly interesting as, together with kusimanse mongooses *(Crossarchus* spp.), it is one of the least known of all cooperative carnivore species (Nowak, 1991). Our notes add to existing knowledge on the distribution and group size of this species.

STUDY AREA AND METHODS

The Niokolo-Koba National Park of southeastern Senegal (13°N; 13°W) is one of the largest conservation areas of West Africa. Together with the adjacent Badiar National Park and N'Dama forest in Guinea, it forms the Transfrontier Park Niokolo Badiar, covering an area of over 10,000 km^2 of Sahelian-Sudanien savannah, with Guinean woodlands, dry forests and gallery forest bordering the Gambia River and its tributaries (Sillero-Zubiri and Marino, 1997). Rainfall averages 1,100 mm with a single rainy season from June to October. The carnivore community here is very diversified: there are 23 species from 6 different families representing 31% of the 75 carnivore species living in continental Africa (Kingdon, 1997; Sillero-Zubiri and Marino, 1998).

Data were collected during a study of the Niokolo carnivore community in 1996 and in 1997. Daily field searches were carried out

from a 4WD vehicle, driving at a speed of 20-30 km/h and totalling 22,500 km. Searches were also carried out during night drives and during stationary searches at marshes. For each observation, the species, location (by means of a hand-held GPS), number of animals, age and sex class, habitat preference and activity were recorded.

RESULTS AND DISCUSSION

Eighteen observations of *Mungos gambianus* were recorded during the study, totalling a minimum of 120 individuals, fourteen in the morning (8:00 - 10:00h) and four in the evening (18:00 - 19:00h). The daytime frequency of observations along roads was 0.08 sightings per 100 km, or 0.01 per hour. Most observations consisted of bands of 3-10 mongooses; the mean group size was 6.7 (±SD= 8.9; n= 18); 5-7 was the mode and single individuals were observed five times. Three groups of 10 or more individuals were recorded, including one of over 40 animals. The latter was observed on 11 June 1996 at 19:00h (13°2.700'N; 13°18.650'W) spread over an area of 1,000 m^2, with distances between individuals ranging from 0.1 to 5 m. The group was foraging when the passage of our vehicle made them run for cover. The nearest individuals were 5-10 m from the vehicle.

The mean group size we calculated from our observations in Niokolo-Koba is most likely an underestimate, due to the fleeing behaviour and preference for thickets of this shy species, which during this study preferred woodlands, and used termite mounds to shelter. To our knowledge, the observation of 40 individuals in one group is the largest group ever recorded for this species, with a maximum group size of up to 31 individuals reported previously (Bourliere *et al.*, 1974). Large groups like the one observed may be either an exceptionally large pack, or an uncommon situation in which two packs might have been foraging together or engaged in some sort of territorial behaviour. We were unable to determine whether the group was composed of one or more packs, and no signs of aggression or competition were noted, although the observation was short lived and the animals vanished quickly into thick undergrowth. Since in all other social mongooses studied packs are reciprocally intolerant (e.g. Rasa, 1985; Macdonald, 1992) the group we observed must have been a large single pack. Mongoose groups as large as this one have only been ever observed in the banded mongoose (Rood, 1974), with one record of a group of nearly 70 (Estes, 1991). The banded mongoose is closely related to the Gambian mongoose and in East Africa a mean group size of 14-16 individuals has been recorded (Gittleman, 1989), the largest among social mongooses (Nowak, 1991).

Mungos gambianus is relatively abundant in Niokolo-Koba. Only banded and slender mongooses (*Galerella sanguinea*) were seen more frequently. Glimpses of its ecology and sociability during this study suggest that, with habituation, the Gambian mongoose in Niokolo-Koba would provide a suitable subject for a graduate study.

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